

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

NEW SPECIES OF APHIDIDAE

F. C. HOTTES

The new species described herewith were collected near Skyway, Colorado, a locality which has proved rather fruitful from the standpoint of new forms. The new names proposed are made necessary either because of mistaken identification or because of rules of nomenclature.

Amphorophora kesocqua, new species

Apterous viviparous female.

Size and general color.—Length from vertex to tip of anal plate 2.78 mm. Width of head through the eyes .47 mm. Length of hind tibiae 2.17 mm. Head thorax and abdomen bluish-green. First and second antennal segments pale dusky, the second segment with some green. Antennal segments III, IV, and V pale dusky with apical portions brown. Antennal segment VI brown with apical portion lighter. Femora green with basal portion quite pale. Tibiae pale dusky green with apical portions brown. Tarsi brown. Basal half of cornicles pale green remaining portion pale dusky with region just anterior to flange darkest. Cauda pale dusky setulose surface brown.

Head thorax and appendages.—Antennal tubercles well developed, with the inner margins of the tubercles free from hair. Hair lacking on anterior margin of head. Third antennal segment with four small non tuberculate sensoria arranged in a straight row. Third antennal segment smooth, hair sparse dull at the tip but not knobbed. All hair on antennae shorter than width of segment, some hair less than one half the width of the segment in length. Segments IV, V, and VI imbricated. On IV and V the imbrications are far apart. Comparative length of antennal segments as follows: III .815 mm., IV .50 mm., V .386 mm., VI .171 + .443 mm. The rostrum reaches beyond the mesothoracic coxae but fails to reach those of the metathorax. The prothorax is provided with a pair of poorly developed lateral tubercles. The hair on the hind tibiae is shorter than the width of the tibiae, none of the hairs are knobbed and some are much longer than others. The hair on the inner surface of the tibiae is much more abundant than that on the outer side; this is especially true of the hair near the apex.

The abdomen.—There are no lateral tubercles on the abdomen. The hair on the abdomen is sparse very short and fine in quality. The cornicles are .715 mm. long. The cornicles are very moderately swollen beyond the middle and the entire surface is weakly imbricated. The flange at the apex of the cornicles is well developed. The cauda is .328 mm. long. The cauda has a very pronounced setulose surface, it is somewhat constricted at its point of origin with the abdomen but not otherwise, it is much flattened and very broad throughout, with the apex dull.

The anal plate is very broad and shallow, its surface is conspicuously steulose, it is very peculiar and distinguished by the almost total lack of long hair on its surface and margins.

This species described from a single specimen, although three or four others were observed in nature, is unique in a number of respects. The lack of hair on the inner margins of the antennal tubercles and from the anterior margin of the vertex, the conspicuously short terminal process, the few long hair on the anal plate and the shape of the cauda, serve to separate at once from *Amphorophora rubi* Kalt. and the green form of *Amphorophora tigwatensa* Hottes.

Holotype deposited in the United States National Museum. Host *Rubus* sp. Skyway, Colorado, July 21, 1949.

Amphorophora agathonica, new species

Alate viviparous female.

Size and general color.—Average length from vertex to tip of anal plate 2.91 mm. range in length from 2.29-3.58 mm. Width of head through the eyes .50-.54 mm. Head light dusky brown with darker brown along margins of antennal tubercles, margin median to the eyes and laterally. First and second antennal segments concolorous with head with median margins darker, remaining segments of antennae with the exception of the extreme base of the third, which is light in color dark brown to dusky black. Rostrum dusky with terminal segments brown. Prothorax light dusky with more or less green remainder of thorax dusky green with thoracic lobes darkest. Abdomen green. Cornicles pale greenish at the base shading to dusky at the beginning of the swollen area, remainder of cornicle dusky with the constricted portion just before the flange darkest. Anal plate more or less dusky brown underlaid with green. Cauda light dusky due to setulose surface, underlaid with green. Tibiae greenish dusky near base shading to dusky brown at apex. Tarsi dark brown. Veins of wings dusky very lightly bordered.

Head and appendages.—Antennal tubercles very well developed. Antennal segments with the following comparative lengths: III 1.15-1.36 ave. 1.21 mm., IV .79-1.07 ave. .99 mm., V .71-.92 ave. .81 mm., VI .15-.17 + 1.11-1.43 ave. 1.29 mm. Secondary sensoria limited to the third antennal segment. The sensoria vary in size, have wide rims, are slightly tuberculate are irregularly arranged and extend throughout the length of the segment. In number the sensoria vary from 53-72 and average 57, however 54 is the more common number. Hair on the third antennal segment is sparse somewhat variable in length but always shorter than one half the width of the segment. The longer hair is slightly knobbed at the apex. Antennal segments four five and six are slightly imbricated. The rostrum just fails to reach the coxae of the mesothoracic pair of legs.

Thorax and appendages.—The prothorax is provided with a pair of small lateral tubercles. These as a rule are very difficult to determine. Second branch of media variable in position in reference to first, most often closer to margin of wing than to first branch.

The hind tibiae vary in length from 3.00-3.21 mm. The hair on the hind tibiae is subequal to the width of the tibiae in length, it is sharp pointed, rather sparse and coarse on the basal half, much finer more abundant and very much inclined near the apex.

Abdomen.—There appear to be no lateral tubercles on the abdomen. The cornicles vary in length from .78-1.14 and average .92 mm. In about half the specimens the cornicles are longer than the fourth antennal segment, of the remainder most have the cornicles subequal to segment IV but a few specimens have segment IV very much longer than the cornicles. The cornicles are distinctly not smooth, but the imbrications are very fine and for the most part difficult to determine. The cornicles are evenly and moderately swollen distal to middle. Near the apex, in the region of the flange there is just an indication of more pronounced imbrications. The cauda varies in length from .35-.46 mm. As a rule it is .40 mm. or more in length. It is coarsely setulose and carries from four to six lateral hair, the apical hair being strongly incurved. The dorsal surface of the cauda as a rule carries from two to three hair. The sides of the cauda are straight, or one side of the cauda is slightly indented. The anal plate is normal.

Apterous viviparous female.

Size and general color.—Length from vertex to tip of anal plate 3.43-5.21 average length 4.10 mm. Head thorax and abdomen of a uniform pale green, or with the head slightly lighter in color with a trace of light dusky at the margins and extending outwards on antennal segments one and two. Width of head across eyes .57-.60 mm. Antennal segments I and II pale dusky, III and IV pale dusky brown except for the base of III which is concolorous with II, segments V and VI dark dusky. Femora pale green with apical halves light dusky. Tibiae dusky with apical region much darker. Tarsi concolorous with tibiae. Cornicles and cauda similar to those of alate viviparous female.

Head and appendages.—Antennal segments with the following proportional lengths: III 1.28-1.40 ave. length 1.32 mm., IV .88-1.14 ave. 1.00 mm., V .71-.91 ave. .83 mm., VI .14-.18 most common length .17 mm. + 1.14-1.43 ave. 1.28 mm. The secondary sensoria are confined to the third antennal segment, they are irregularly arranged and cover about three sides of the basal half of the segment. The sensoria are irregular in size, have wide rims and are only slightly tuberculate. The sensoria vary in number from 22; in only one case to 36 and average 32. The antennal tubercles are very well developed and carry four hair on the inner margins. The anterior margin of the head is provided with two hair which are shorter than those on the antennal tubercles. The rostrum extends to or slightly beyond the mesothoracic pair of legs.

Thorax and appendages.—The prothorax is provided with a pair of poorly developed lateral tubercles. These are always difficult to determine. The hind tibiae are from 3.28-3.93 mm. in length and average 3.76 mm.

Abdomen.—The cornicles vary in length from 1.00-1.20 and average 1.09 mm. The most common length of the cornicles is 1.07; they are almost without exception longer than the fourth antennal segment. The average length of the cauda is .55 mm. and the range in length is from .50-.64 mm. The sides of the cauda are for the most part straight but a slight indentation may occur in the region of the end of the anal plate. Five to six curved hair are located on the lateral surface of the cauda; these are shorter than the width of the cauda. The anal plate is normal in shape, it has a setulose surface and its margin is provided with long hair.

This species is perhaps most closely allied to *Amphorophora rubi* (Kaltenbach) from which it differs in the following respects: The dark color of the cornicles or at least the dark apical halves of them, the cornicles not being smooth but very feebly imbricated, the larger number of secondary sensoria on antennal segment III, the difference being large in the case of the apterous viviparous females. Alate specimens of this species can not be keyed to *rubi* in Mason's key, either because the cornicles are longer than antennal segment IV or because the sensoria number more than 50. Apterous females can not be keyed to *rubi* in Mason's key, either because of the color of the cornicles or because the sensoria number more than 30. From *Amphorophora tigwatensa* H. this species differs in the lighter color of the cornicles, the less well developed imbrications on the cornicles, the larger cauda and more numerous secondary sensoria. This species was collected on the young and tender stems and on the under sides of the leaves of *Rubus* sp. (Wild red raspberry). It is a pleasure to acknowledge the assistance of Dr. Lambers who confirmed my opinion that the species is not the *Amphorophora rubi* of Kaltenbach or one of the European varieties of that species.

Holotype alate viviparous female Skyway, Colorado Aug. 6, 1933.

Morphotype apterous viviparous female Skyway, Colorado July 21, 1949.

Holotype and Morphotype together with slides seen by Dr. Lambers deposited in United States National Museum. Paratypes and paromorphotypes taken at Skyway, Colorado during the summers of 1947, 48 and 49.

Macrosiphum cockerelli, new species

On pages 47-51 of the 1949 volume of the Proceedings of the Biological Society of Washington I described all forms of a species which I had determined as *Macrosiphum rudbeckiarum* (Cockerell). Prof. Palmer has suggested that I give the species thus described a new name because of the larger number of sensoria on the third antennal segment of the alate viviparous female. I do this in deference to her suggestion and call the species *Macrosiphum cockerelli* after Prof. T. D. A. Cockerell who in the early years of our century showed an interest in the family Aphididae. Holotype alate viviparous female Skyway, Colorado July, 1936 taken on *Rudbeckia montana*. Deposited in the United States National Museum.

Capitophorus patonkus H.&F. var. **coloradensis**, new variety

Capitophorus patonkus H.&F. is recorded from Colorado for the first time. Along with the typical forms there was taken during the summer of 1949 a form identical morphologically to the form described, this form however was a pale chocolate-brown covered over with a very light pulverulence suggesting a hoar frost, and the variety name *coloradensis* is suggested for it. Holotype and morphotype mounted on the same slide, with the following data: Skyway, Colorado July 1, 1949. Host *Achillea millefolium*. Deposited in the United States National Museum.

Aphis tonahasa, new name

Aphis ribis Sanborn, a homonym of a species described by Linnaeus has apparently not been redescribed under another name, or renamed. Being a homonym of a well known species a new name is in order and *Aphis tonahasa* is suggested.